DOCUMENT RESUME

ED 308 422 CG 021 743

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TITLE Behavioral Risk Factors for AIDS among Adolescents.
PUB DATE 27 Apr 89
NOTE 19p.; Paper presented at the Annual Meeting of the Society for Research in Child Development (Kansas City, MO, April, 1989).
PUB TYPE Information Analyses (070) -- Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Acquired Immune Deficiency Syndrome; *Adolescents; *Drug Use; *High Risk Persons; *Risk; *Sexuality

ABSTRACT

This document examines the incidence of Acquired Immune Deficiency Syndrome (AIDS) among adolescents in the United States and identifies several risk factors for AIDS among this population. It classifies adolescents' risk for contracting human immunodeficiency virus (HIV) infection by the degree to which adolescents engage in behaviors that are the primary modes of transmission for the AIDS virus. Adolescents who are not sexually active, not using intravenous drugs, and not receiving contaminated blood products are identified as having the lowest risk for HIV infection. Adolescents considered to be in the highest risk groups are homosexuals, intravenous drug users, homeless and runaway adolescents, minority youth, and youth living in inner cities. Each of these high-risk populations is discussed separately. The risk involved with condom use, alcohol use, and non-monogamous sexual relations are all considered. Other sexually transmitted diseases are discussed as providing a parallel to AIDS transmission and data on these diseases are used to project changes in adolescents' risk status for AIDS in the coming decade. Three tables of adolescent AIDS cases, the racial-ethnic distribution of AIDS cases among adolescents, and the racial-ethnic differences in transmission routes are included. Thirty-four references are cited. (NB)

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Behavioral Risk Factors for AIDS Among Adolescents

ED308422

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Washington, DC

Presented April 27, 1989
Society for Research in Child Development
Kansas City, MO

Symposium Title: Adolescents in the AIDS Epidemic

CG021743

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AIDS in Adolescents

As of March, 1989, the Centers for Disease Control (CDC) reported a total of 359 diagnosed cases of AIDS among teenagers (13-19 years old) in the United States (1). However, the prevalence of AIDS in adolescents reflects a cumulative pattern of infection, and thus underestimates the current prevalence of infected individuals. Since the incubation period for the Human Immunodeficiency Virus (HIV) is approximately 2-10 years, exposure to HIV during the early years of sexual experience may not emerge as AIDS until young adulthood. Many of the 10,775 young adults (ages 20-29 years) who contracted AIDS by 1988 probably acquired the virus during adolescence (2).

The fact that HIV may be present for years prior to the onset of symptoms has important implications for prevention and treatment efforts with adolescents. It may be difficult for adolescents to recognize that infection can be present in the absence of symptoms. Infected youth may be unlikely to seek testing in the absence of symptomatology, and seropositive adolescents may deny the illness in the absence of symptoms, continuing behavior patterns who could infect more people (3).

Since few adolescents are tested for HIV status, the actual prevalence of infected individuals remains unknown.

Among applicants for military service, 1.5 per 1000 tested positive, with rates highest in the Middle Atlantic, Pacific and South Atlantic States. The rate among blacks was 3.9 per 1000 compared to .9 per 1000 in whites. The male-to-female ratio of seropositivity was 3:1 (4). Residential Job Corps entrants, (aged 16-21) had a rate of 3.3 HIV positive individuals per thousand (5), twice the incidence among the military. Job Corps entrants are more likely to come from disadvantaged backgrounds. Much higher rates of seropositivity have been reported for among adolescent patients attending an urban clinic for sexually transmitted diseases. Among patients ages 15-19 year olds, 2.2 percent (22 per thousand) tested positive; 3.7 percent of the 20-24 year olds were seropositive for HIV (6).

These data from STD clinics confirm what many knowledgeable individuals have been saying, and that is that increases in HIV infection are expected to occur predominantly among the population subgroups at risk for other sexually transmitted diseases. Included in this group are adolescents, who have the highest age-adjusted STD rates of all age groups. It is estimated that more than half of the 20 million STD cases reported yearly will occur in individuals under the age of 25 years (7,8).

Recent data from the Centers for Disease Control (1) highlight the most likely routes of transmission of the AIDS virus among 13 to 22 year olds (Table 1). Over half of the

cases are attributable to homosexual activity. IV drug users account for 20% of cases, almost 2/3 of whom are heterosexual IV drug users. Almost 9% of these adolescents and young adults acquired AIDS as a heterosexual contact of an IV drug user. Infection via contaminated blood products accounts for almost 14% of cases. If one compares these data to transmission routes among adults, it becomes clear that HIV transmission shows somewhat different patterns for adolescents than for adults. Although homosexual transmission is the most likely route of transmitting HIV in both age groups, it accounts for a smaller proportion of adolescent AIDS cases. Compared with adults, adolescents have a higher proportion of AIDS cases due to heterosexual transmission and IV drug use. A greater proportion of adolescent cases are female as well.

AIDS-Related Behaviors Among Adolescents

Adolescents are a high risk group for contracting HIV infection to the degree that they engage in behaviors that are primary modes of transmission for the AIDS virus. Although adolescents and adults differ in the proportion of cases transmitted via specific modes, the behaviors which have been implicated in HIV transmission are the same for adolescents and adults. These include the exchange of bodily fluids with an infected person, primarily through sexual relations, contaminated blood products or IV drug use.

Clearly, not all adolescents are at the same degree of

risk for HIV infection. Adolescents fall into different categories of risk as a function of their behavior or other attributes, and it is thus possible to describe groups of adolescents at higher and lower risk. Adolescents who are at the lowest level of risk for HIV infection include those who are not sexually active, not using IV drugs, and not receiving contaminated blood products. Unfortunately, this describes a minority of adolescents, primarily because of the high proportion of youth who are sexually active. The remaining adolescents are all at some degree of risk.

Sexual Behavior

Sexual behavior is probably the most significant risk factor for contracting AIDS. More adolescents are engaging in sexual intercourse and they are initiating this activity at younger ages than ten years ago. The percentage of sexually active adolescents rose over the 1971 to 1979 period, although there have been decreases since then (9). The most recent national data from 1982 still show, however, that over fifty percent of adolescents have initiated sexual intercourse by their eighteenth birthday. The onset of sexual activity is earlier in males than females, earlier in black adolescents, and earliest among black males (9). Early onset of sexual activity is especially problematic since very young adolescents may be limited in their ability to anticipate realistically the consequences of their activities.

Some adolescents are engaging in particularly risky

forms of sexual activity. A recent sample of 422 sexually active female adolescents presenting at health clinics in San Francisco indicated that 21 percent of these adolescents (average age 17 years) report having engaged in receptive anal intercourse (10). For the 86 males in the sample, 22% had engaged in insertive anal intercourse. These experiences were not one time occurrences; among the adolescents who had anal sex, 41% of the females and 65% of the males had done so one more than one occasion.

Degrees of Risk Among Adolescents

However, the risk for HIV infection, even among sexually active adolescents probably varies considerably, depending on the types of behaviors the adolescent is engaging in, and with whom. The most risky behavior is having unprotected sex with an infected individual. Given this, one would have to consider, in the highest risk group, gay adolescents, IV drug users, homeless and runaway adolescents, minority youth and youth living in inner cities.[1]

Gay Youth

The high percentage of adolescent AIDS cases that are associated with homosexual transmission place homosexual youth at higher risk. For a variety of reasons, homosexual youth have rarely been studied, and the number of homosexual youth is unknown. Estimates are that there are 150,000 gay

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[1] This paper will not deal with issues pertaining to youth with hemophilia.

youth in the New York city area alone.

In one of the few studies done on homosexual youth, Remafedi (11) noted that these adolescents often engaged in behaviors such as unprotected sex with multiple partners that left them at risk for HIV infection. Many were having sex with older partners, a group with a higher seropositivity rate.

Drug Users

Intravenous (IV) drug use is a risk factor for AIDS when needles are shared by users. It has been estimated that 200,000 teens have used IV drugs (12). Although IV drug use is less common among adolescents than other forms of substance use, in some geographic areas, IV drug use is the major cause of AIDS among adolescents (13). In these areas, adolescents are at increased risk of unknowingly having sex with IV drug users. HIV-infected drug users are primarily young, adult male minority group members who are also sexually active with multiple partners (14). Since adolescent females tend to have sex with males who are older than themselves, these young adult males may be a significant source of infection.

Crack use is becoming a major problem in many inner city neighborhoods. Although not a direct risk factor for HIV infection, two recent field studies indicates that crack is frequently exchanged for sex, thus making it an indirect risk for some adolescents (15,16).

Homeless and Runaway Youth

About one million adolescents run away from home each year, over half of whom are chronic runaways. Many of these youth are gay. An estimated 187,500 of these youth are involved in activities such as drug trafficking, drug use or prostitution (17). About 150,000 male and female adolescents become involved in prostitution each year. These adolescents are also at high risk for contracting AIDS, and for spreading the virus to the general population (18). Even runaways who do not turn to drug use or prostitution are at increased risk of having sex with an IV drug user.

Minority Youth

AIDS in minority group youth exceeds their proportion in the population. The number of AIDS cases per million relevant population is 2 to 3 times greater among black and hispanic youth than among non-hispanic whites (22-22). Among adolescents, 51 percent of AIDS cases have been white, 27.9 percent black, 18.4 percent Hispanic, and 2.4 percent represent other racial-ethnic backgrounds (1) (Table 2).

In addition to differences in prevalence, the epidemiology of AIDS also differs for blacks and hispanics, as compared to non-hispanic whites (23) (Table 3). Specifically, needlesharing and heterosexual intercourse with an IV drug user account for a far greater proportion of cases among minorities. This means that minority women are at substantially greater risk than non-hispanic white women

(24). Since drug distribution networks are frequently staffed by adolescents at the retail level, minority adolescents in areas with high IV drug use are also at high risk.

The emergence of race as a risk factor is consistent with data on other STD's. For most STDs, black adolescents have the highest rates. Rates for Hispanics usually fall between the rates for black and white youth. The average age-adjusted gonorrhea rate in black adolescents, for example, is 10-15 times that of their white peers (25-26).

Youth in Inner Cities

It has been stated by one researcher that in this epidemic, geography is destiny (27). In geographic areas where HIV seropositivity rates are high adolescents, as well as adults, are more likely to have contact with infected individuals. Geography also has implications for the importance of different transmission routes. In some geographic areas, particulary large inner cities, IV drug use is the major cause of AIDS among adolescents (13). In these areas, adolescents are at increased risk of unknowingly having sex with IV drug users. In New York City, female partners of males in risk groups constitute 11 percent of the adolescent AIDS population (27).

Adolescents at Moderate Risk

Adolesents who are at the greatest risk of acquiring the HIV are those who have a greater cumulative probability of having sex with an infected individual. Adolescents who are

at less risk, but who still should be considered at moderate risk, include those who, although less likely to have sex with infected individuals, engage in behaviors that fail to protect them adequately.

Condom Use

The more than one million pregnancies among adolescents each year reflects their high rates of unprotected intercourse (28). Adolescents wait an average of 9-14 months after becoming sexually active before seeking information about contraception. Among sexually active adolescent girls aged 15-19 years, two-thirds use ineffective methods or none at all. Many sexually experienced adolescents (25-33 percent) have never used any form of contraception (29). In a recent study, only 15 percent of sexually active females reported using condoms during their last sexual experience (30). These many unprotected adolescents are at risk for AIDS. Teens who use contraceptive methods other than condoms, including the pill, diaphragm, sponge, foams, suppositories, also have no protection against the transmission of the AIDS virus.

Alcohol Use

Risks associated with substance use have been most clearly demonstrated for IV drug use, although other forms of drugs use may also be important. Alcohol, which is used by a large majority of adolescents may serve to loosen inhibitions against engaging in sexual behaviors, affect contraceptive

behaviors, or provide the young person with a rationale or excuse for participating in behaviors in which he/she might ordinarily refuse to participate (31). In a sample of 14- to 19-year old females, 71 percent reported that it was easier to have sex if they had been drinking, and 43 percent said they worried less about birth control when drinking (30). Similar effects from other drugs were also reported.

Non-Monogamous Sex

Non-monogamous sexual behavior is clearly not restricted to gay youth. In the 1970's, 50 percent of all sexually active females and 75 percent of sexually active males were non-monogamous. Nineteen percent of sexually active 15- to 19-year old females report having had more than four sexual partners (32).

Sexually-Transmitted Disease as a Risk Factor

The best parallel to AIDS in adolescents are other sexually transmitted diseases (STDs). After all, the behaviors linked to AIDS include those which are also associated with increased risk for other sexually-transmitted diseases: non-monogamous sex, a greater number of sexual partners, and nonuse of protective measures. Given this, increases in HIV infection among are expected to occur predominantly among the population subgroups at risk for other sexually transmitted diseases (33).

If the data on STDs are any indication of what the future will bring in terms of AIDS, it is a clear and

frightening warning. Adolescents have alarmingly high rates of STDs (7,25,26). It is estimated that more than half of the 20 million STD cases reported yearly will occur in individuals under the age of 25 years.

Changes in Adolescents Risk Status in the Coming Decade

There are currently over 35 million adolescents 10-19 years of age in the United States, with an anticipated increase of about 10 percent in the early 1990's and a decrease thereafter. The adolescent population in the next decade will be characterized by increasing numbers of minority youth who reside in large, metropolitan areas in poverty conditions (34). Since minority status and poverty are also associated with higher rates of AIDS, we can expect proportionately more adolescents to be at risk as these demographic changes occur.

The case for attention to adolescents is thus a compelling one. Preventive education is the only strategy currently available to combat the further spread of the virus. Reaching the adolescent population, especially those at highest risk, will require the involvement of many different sectors of the society, including parents, schools, churches, and community and voluntary associations. Knowledge about adolescent development and effective or promising approaches for changing adolescent behavior must be the foundation for such efforts.

Table 1

CLASSIFICATION OF AIDS CASES AMONG

13 - 22 YEAR OLD ADOLESCENTS

Risk Group Classification	Frequency	Percentage
Homosexual Activity	768	53.3
All IV Drug Users	294	20.4
Heterosexual IVDA	184	12.8
Homosexual IVDA	110	7.6
Heterosexual contact of IV Drug User	125	8.7
Hemophiliac	142	9.9
Transfusion	53	3.7
Undetermined	59	4.1
Total	1441	

Data from Centers for Disease Control, Fall 1988.

Table 2

RACIAL-ETHNIC DISTRIBUTION OF AIDS CASES

AMONG 13 - 19 YEAR OLD ADOLESCENTS

	Males		Females		Total	
	N	%	N	%	N	%
WHITE	150	51.0	14	21.5	164	45.7
BLACK	82	27.9	39	60.0	121	33.7
HISPANIC	54	18.4	11	16.9	65	18.1
OTHER	7	2.4	1	1.5	8	2.2
UNKNOWN	1	.3	10	15.4	11	3.1

Data from Centers for Disease Control, April 1989 (1).

Table 3

RACIAL-ETHNIC DIFFERENCES IN TRANSMISSION ROUTES

	TOTAL CASES	% in Whites	% in Blacks	% in Hispanics
Homosexual or Bisexual	36,795	78.2	37.1	44.1
IV drug user	10,573	6.0	35.5	36.6
Homosexual and IV drugs	4,304	7.7	6.8	6.8
Heterosexual contact	2,382	1.2	10.7	3.9
Transfusion	1,520	3.2	1.6	1.6
Infant	710	.3	2.9	2.0
Hemophiliac	621	1.5	.3	.5
Undetermined	1,841	1.9	5.1	4.5
Total Cases	58,746	35,087	15,313	8,346

* Data from Haverkos & Edelman (1988).

References

1. Centers for Disease Control. HIV-AIDS Surveillance Report. Atlanta, GA, April , 1989.

2. Centers for Disease Control. Acquired Immunodeficiency Syndrome Weekly Surveillance Report. Atlanta, GA, January 25, 1988.

3. Millstein SG, Irwin CE: Concepts of health and illness: Different constructs or variation on a theme? Health Psychology 6:515-524, 1987

4. Centers for Disease Control. HTLV III/LAV. Antibody prevalence in US military recruit applicants. Morbidity and Mortality Weekly Report, 35: 421-424, 1986.

5 Centers for Disease Control (1987). Antibody to Human immunodeficiency virus in female prostitutes. Morbidity and Mortality Weekly Report, 36, 157-161.

6. Quinn TC, Glasser D, Cannon RO, et al: Human immunodeficiency virus infection among patients attending clinics for sexually transmitted diseases. The New England Journal of Medicine 318: 197-203, 1988.

7. Bell, T. A. & Holmes, K. K. (1984). Age-specific risks of syphilis, gonorrhea and hospitalized pelvic inflammatory disease in sexually experienced U.S. women. Sexually Transmitted Diseases, 11, 291-295.

8. National Institutes on Allergies and Infectious Disease Study Group. (1980). Sexually transmitted diseases--summary and recommendations. National Institutes of Health.

9. National Research Council. Risking the Future: Adolescent Sexuality, Pregnancy, and Childbearing. Washington, D.C.: National Academy Press, 1987.

10. Broering J, Moscicki B, Millstein SG, Policar M, Irwin CE: Sexual practices among adolescents. Society for Adolescent Medicine, San Francisco, CA, 1989.

11. Remafedi, G. (1987). Adolescent homosexuality: psychosocial and medical implications. Pediatrics, 79, 331-337.

12. Quackenbush M: Educating youth about AIDS. Focus 2(3), 1987.

13. Drucker E: AIDS and addiction in New York City. American Journal of Drug and Alcohol Abuse 12: 165-181, 1986.

14. Schoenbaum E, Selwyn P, Cox C: Prevalence and risk factors associated with HTLV III/LAV antibodies among IV drug abusers in a Methadone program in New York City. Presented at the International AIDS Conference, Paris, France, June 1986.

15. Hersch, P (1989). Exploratory ethnographic study of runaway and homeless adolescents in New York and San Francisco. Unpublished study. Reston, VA.

16. Bowser, B. (1988). Crack and AIDS: an ethnographic impression.

17. U.S. Department of Health and Human Services, Fiscal Year 1985 Study of Runaways and Youth, Washington, DC, 1986.

18. Hersch P: Coming of age on city streets. Psychology Today, 28-37, January 1988.

19. Bakeman, R., Lumb, J., Jackson, R., & Smith, D. (1986). AIDS risk-group profiles in whites and members of minority groups. New England Journal of Medicine, 315, 191-192.

20. Multicultural Research and Inquiry on AIDS, 2, 1-2.

21. Centers for Disease Control (1986). Acquired immunodeficiency syndrome among blacks and hispanics--United States. Morbidity and Mortality Weekly Report, 35, 655-666.

22. Centers for Disease Control (1988). Prevalence of human immunodeficiency virus antibody in U.S. active-duty military personnel, April 1988. Morbidity and Mortality Weekly Report, 37, 461-463.

23. Haverkos, H. & Edelman, R. (1988). The epidemiology of acquired immunodeficiency syndrome among heterosexuals. Journal of the American Medical Association, 260, 1922-1928.

24. Guinan, M., & Hardy, A. (1987). Epidemiology of AIDS in women in the United States. Journal of the American Medical Association, 257, 2039-2042.

25. Shafer MA, Blain B, Beck A, Dole P, Irwin CE, Sweet R, Schachter S: Chlamydia trachomatis: Important relationships to race, contraceptive use, lower genital tract infection and Papanicolaou smears. Journal of Pediatrics 104:141-146, 1984.

26. Metropolitan Insurance Company: Sexually transmitted diseases in the US. Statistical Bulletin 67:1-9, 1986.

27. Hein K: AIDS in adolescence: A rational for action. Commissioned paper prepared for the Carnegie Council on Adolescent Development, June 1987.

28. Teenage Pregnancy: The Problem That Won't Go Away. The Alan Guttmacher Institute, 1981.

29. Zelnik M, Kanter JF: Sexual activity, contraceptive use and pregnancy among metropolitan teenagers 1971 - 1979. Family Planning Perspectives 12: 230-237, 1980.

30. Moscicki B, Millstein SG, Broering J, and Irwin CE: Psychosocial and Behavioral Risk Factors for AIDS in Adolescents. Interim report submitted to University of California Task Force on AIDS, San Francisco, January 1988.

31. Zucker RA, Battistich VA, Langer GB: Sexual behavior, sex-role adaptation and drinking in young women. Journal of Studies on Alcohol 42:457-465, 1981.

32. Zelnik M. (1983). Sexual activity among adolescents: Perspective of a decade. In E.R. McAnarey (Ed.), Premature adolescent pregnancy and parenthood. NY: Grune and Stratton.

33. Institute of Medicine. Confronting AIDS: Directions for Public Health, Health Care, and Research. Washington, D.C.: National Academy Press, 1986.

34. American Youth: A Statistical Snapshot. A Report from The William T. Grant Foundation's Commission on Work, Family and Citizenship: Youth and America's Future, June 1987.